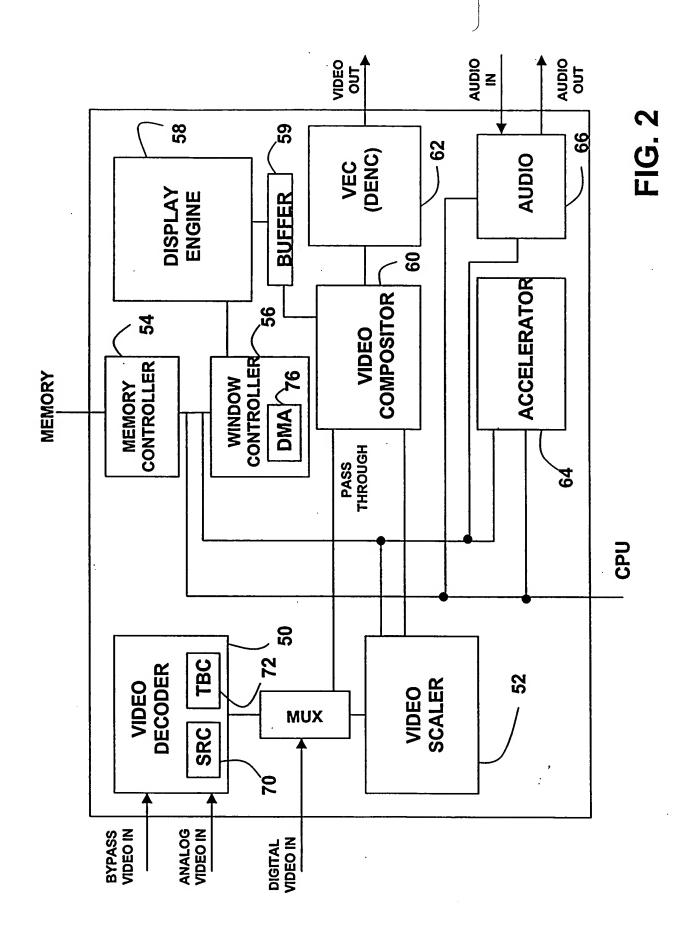
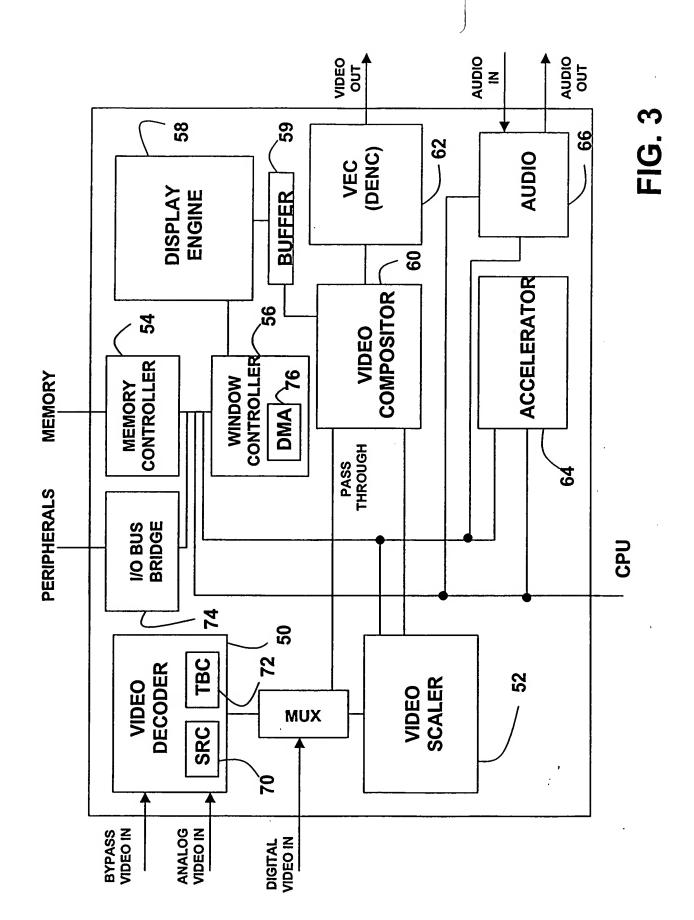
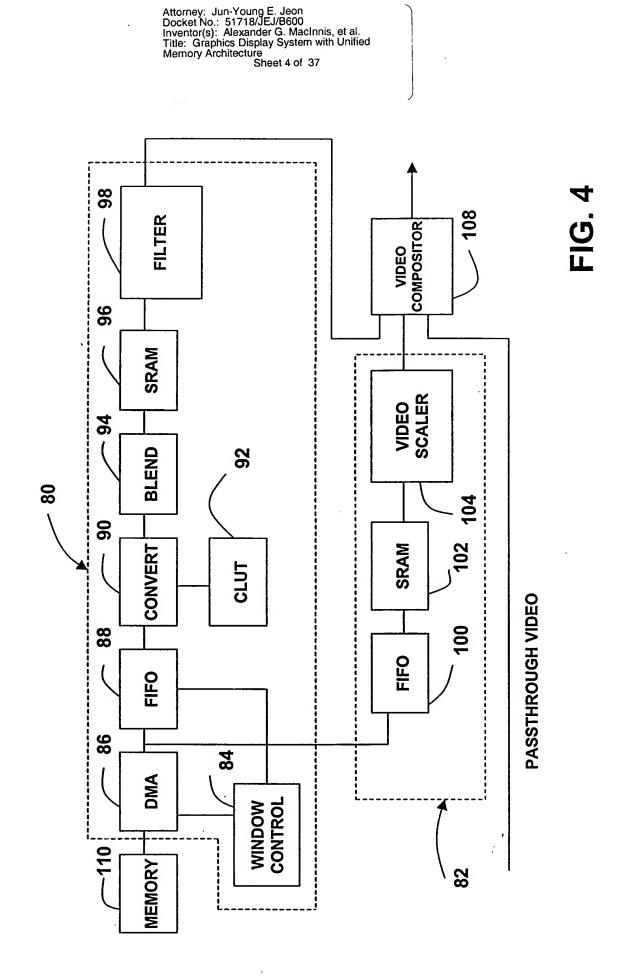


Attorney: Jun-Young E. Jeon Docket No.: 51718/JEJ/B600 Inventor(s): Alexander G. MacInnis, et al. Title: Graphics Display System with Unified Memory Architecture Sheet 2 of 37



Attorney: Jun-Young E. Jeon Docket No.: 51718/JEJ/B600 Inventor(s): Alexander G. MacInnis, et al. Title: Graphics Display System with Unified Memory Architecture Sheet 3 of 37





62 VEC 9 DATA SIZE 190 VERT COEFF FILTER VIDEO COMPOSITOR 188 59 XNW BUFFERS (7) PASSTHROUGH VIDEO ГІИЕ 182 BKGND COLOR **ENGINE** 152 SCALER 52 146 186 BFENDEK GEX COEFF ⋛ BUFFER **FINE** CLUT CIR TO YUV 422 YUV 444 XNW 68 **XUM** CLUT 136 CONVERTER 162 **XNW** GFX 150 **RGB2YUV** 148 64 <u>66</u> VIDEO CAP ITU-R 656 DECODER FIFO TBC 146 144 TBC VIDEO 132 CAP 154 GFX FIFO 28 VDEC MPEG VIDEO 72 ANALOG VIDEO 20 BYPASS VIDEO CTRL 130 GFX DMA **MASIGS** WIN **MAAGS**

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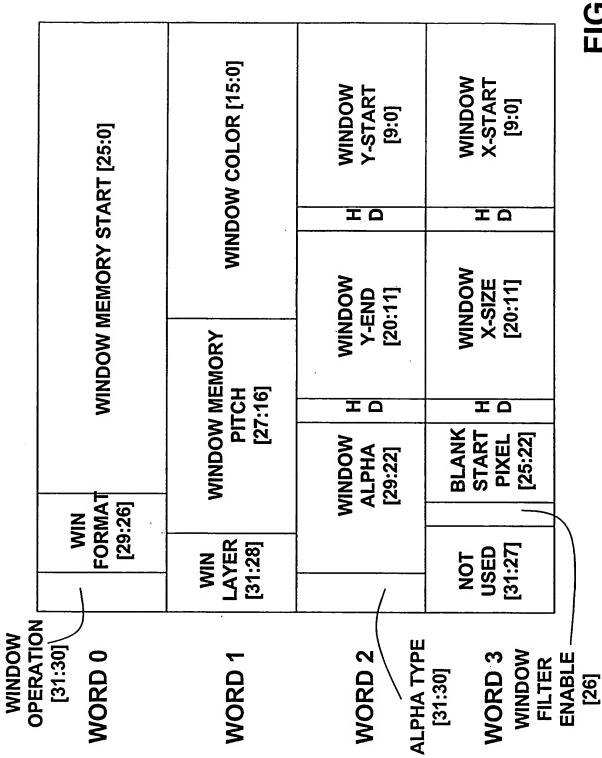
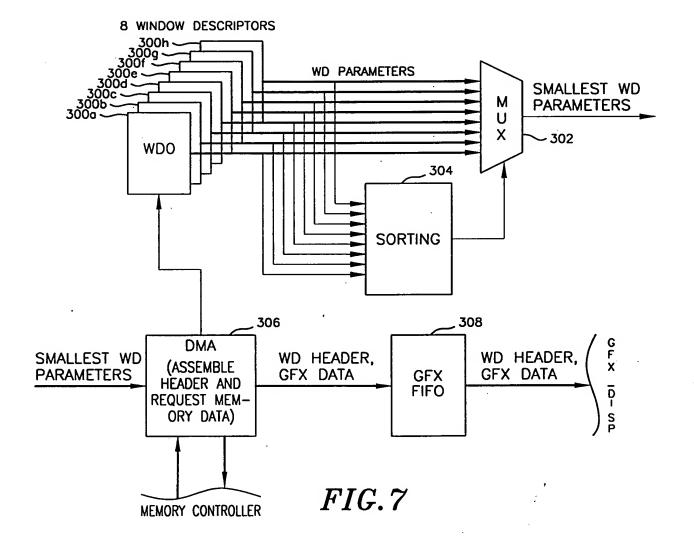
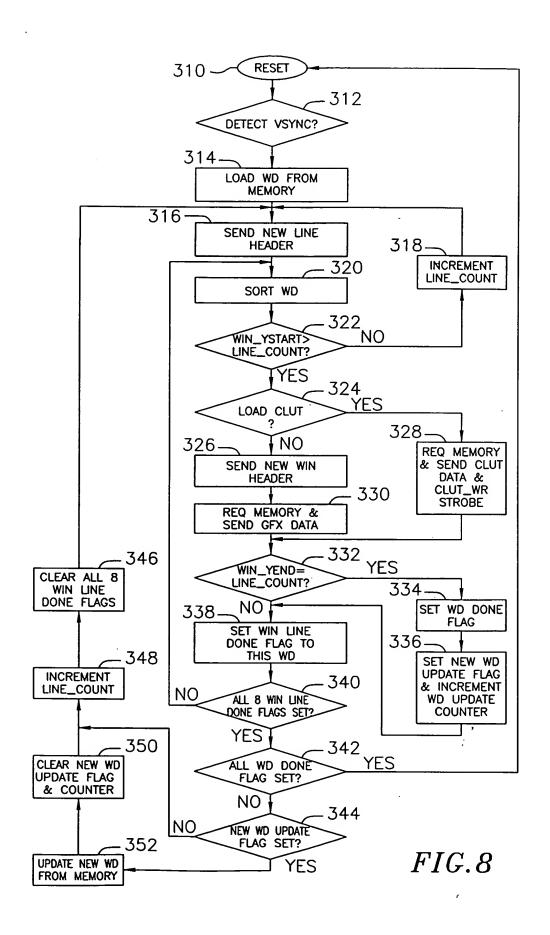


FIG. 6

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Attorney: Jun-Young E. Jeon Docket No.: 51718/JEJ/B600 Inventor(s): Alexander G. MacInnis, et al. Title: Graphics Display System with Unified Memory Architecture Sheet 8 of 37



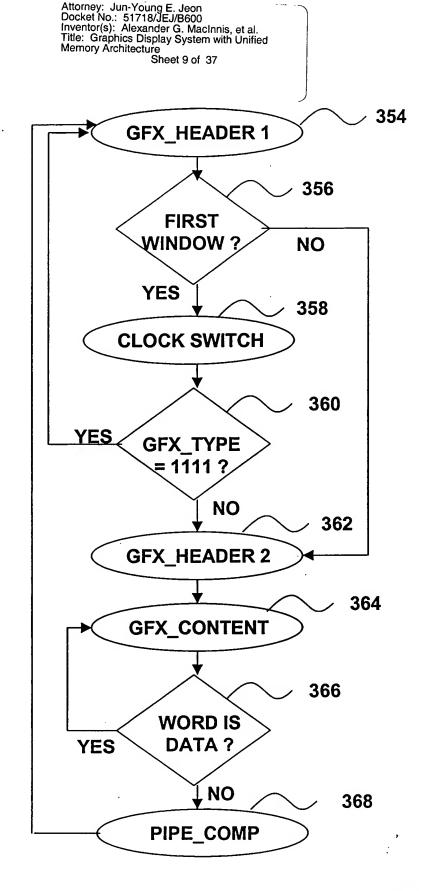
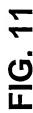
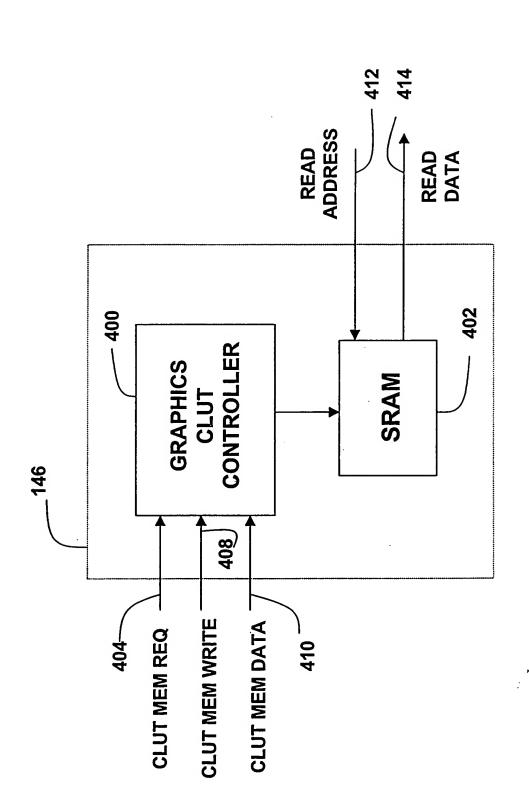


FIG. 9

Attorney: Jun-Young E. Jeon Docket No.: 51718/JEJ/B600 Inventor(s): Alexander G. MacInnis, et al. Title: Graphics Display System with Unified Memory Architecture Sheet 10 of 37 GRAPHICS LINE BUFFER 376 374 FIG. 10 GRAPHICS BLENDER 140 YUV 444 TO YUV 422 CONVERTER 138 134 GRAPHICS CONVERTER 136 **RGB TO YUV** CONVERTER 372 **GRAPHICS** 58 FIFO 132 MEMORY





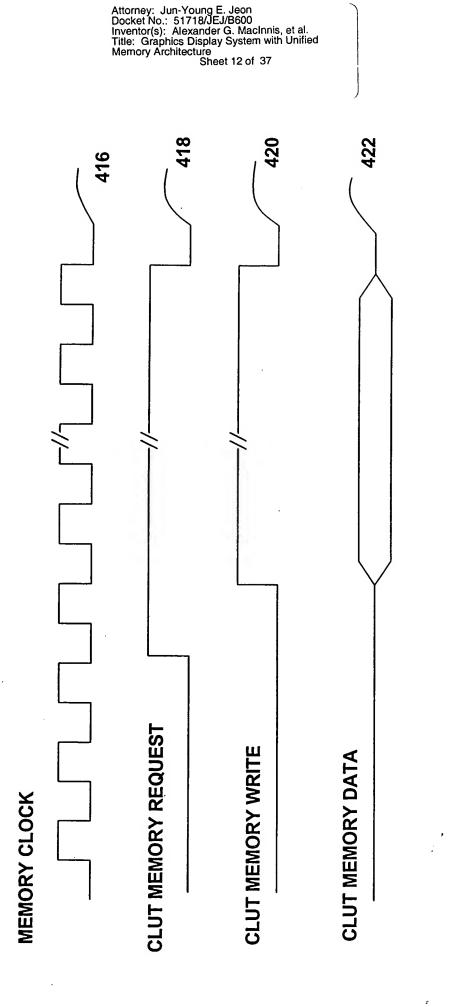


FIG. 12

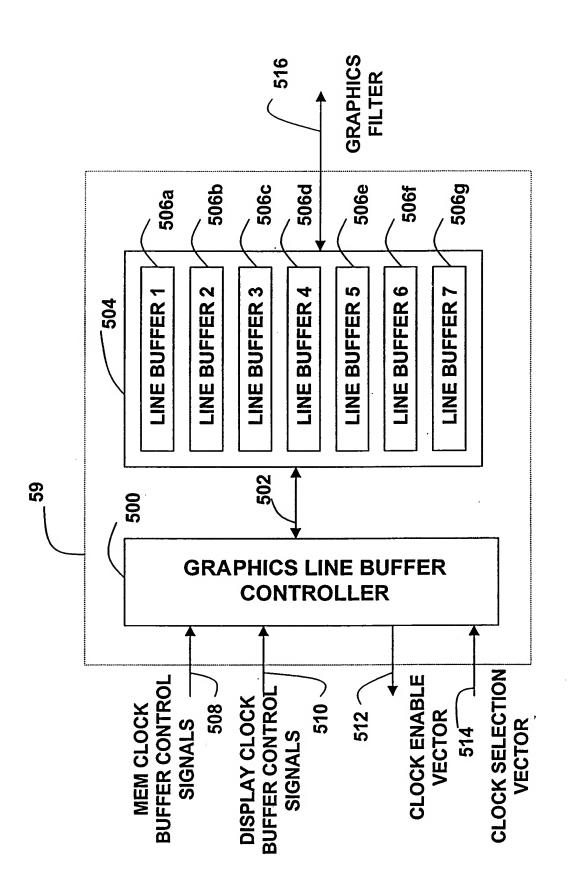
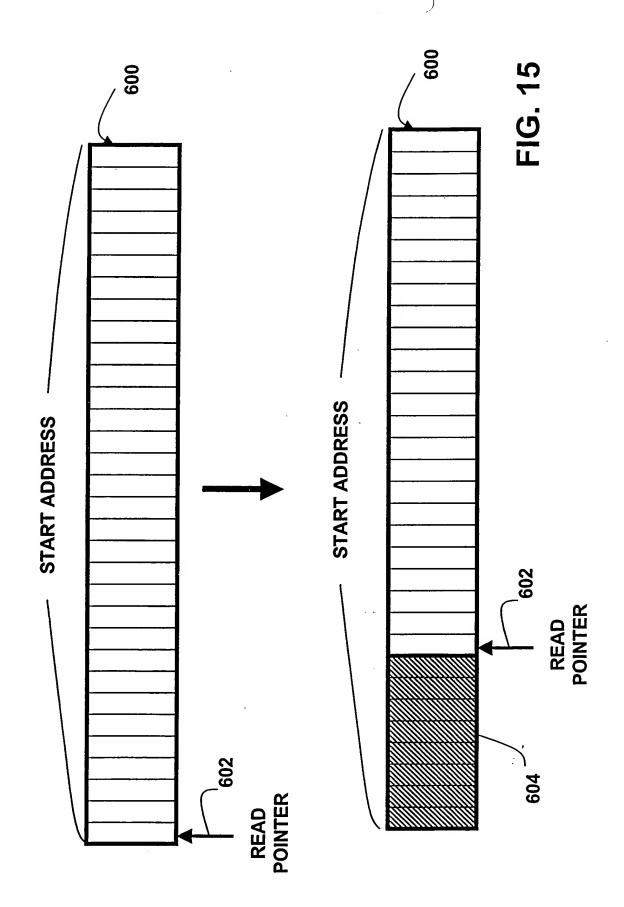


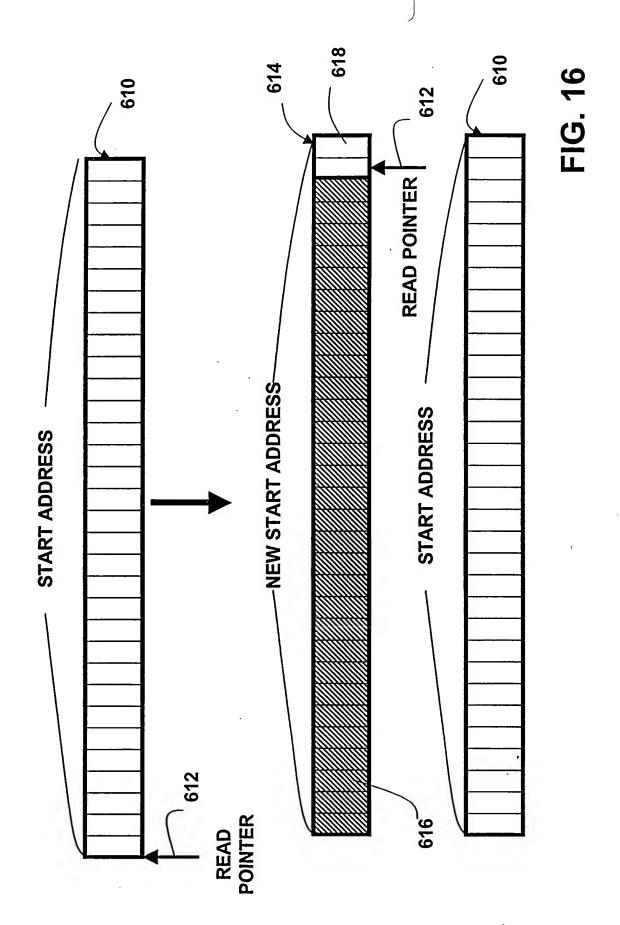
FIG. 13

Attorney: Jun-Young E. Jeon Docket No.: 51718/JEJ/B600 Inventor(s): Alexander G. MacInnis, et al. Title: Graphics Display System with Unified Memory Architecture Sheet 14 of 37 520 **RESET** 522 **DETECT VSYNC?** YES RESET 524 **LINE BUFFERS** LOAD LINE BUFFERS 526 WITH GRAPHICS 528 **DETECT HSYNC?** 530 YES **CLOCK SWITCHING LINE BUFFERS** 532 RELEASED **534 CLOCK SWITCHING LINE BUFFERS 536** TO GFX FILTER 538 **YES** DETECT **VSYNC?** NO **FIG. 14**

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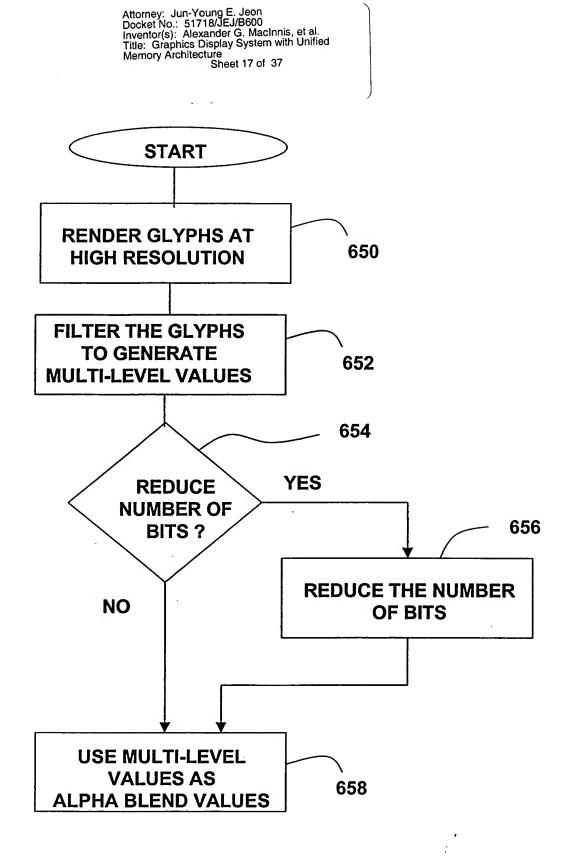


FIG. 17

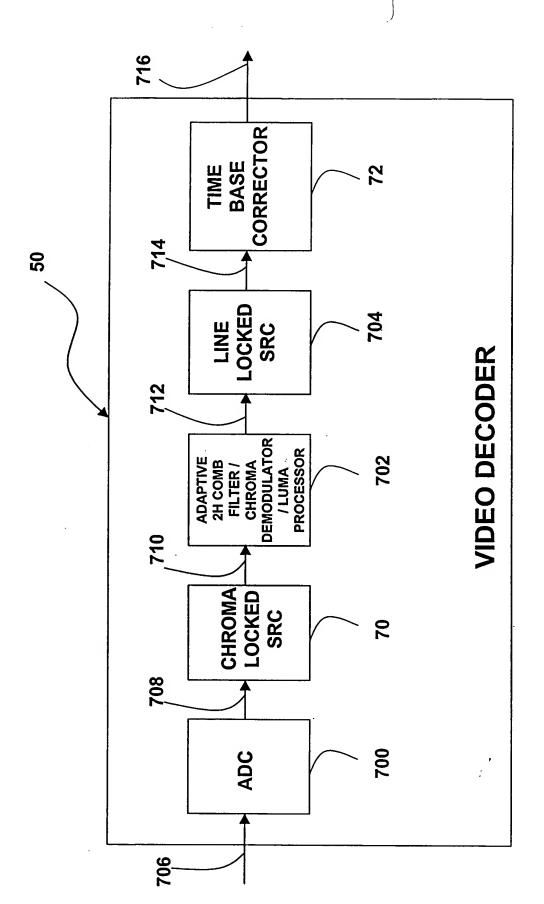


FIG. 18

Attorney: Jun-Young E. Jeon Docket No.: 51718/JEJ/B600 Inventor(s): Alexander G. MacInnis, et al. Title: Graphics Display System with Unified Memory Architecture Sheet 19 of 37

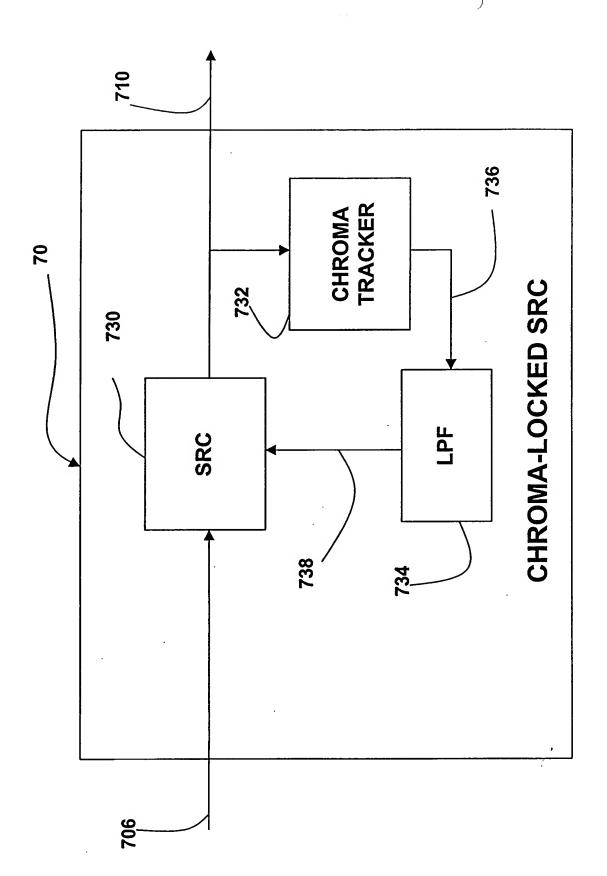


FIG. 19

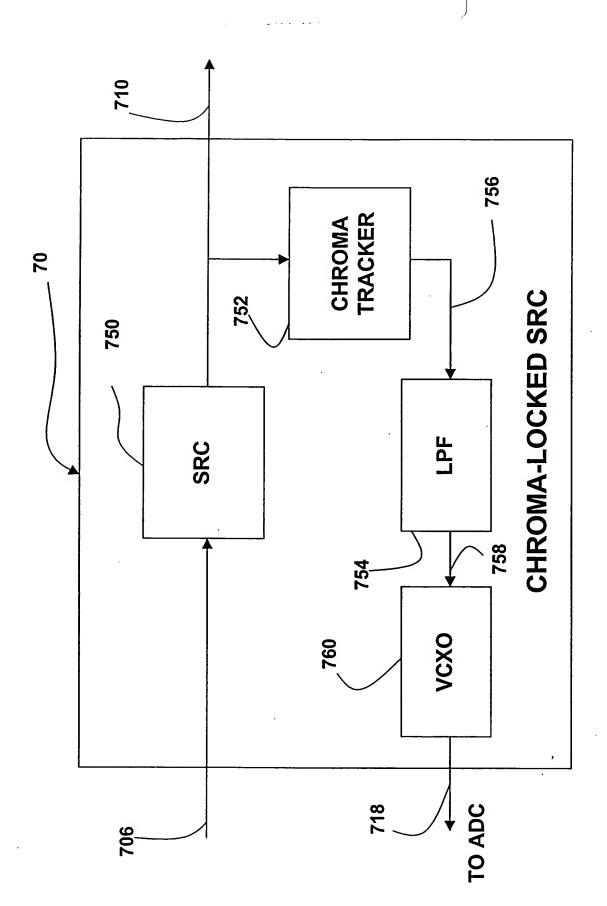


FIG. 20

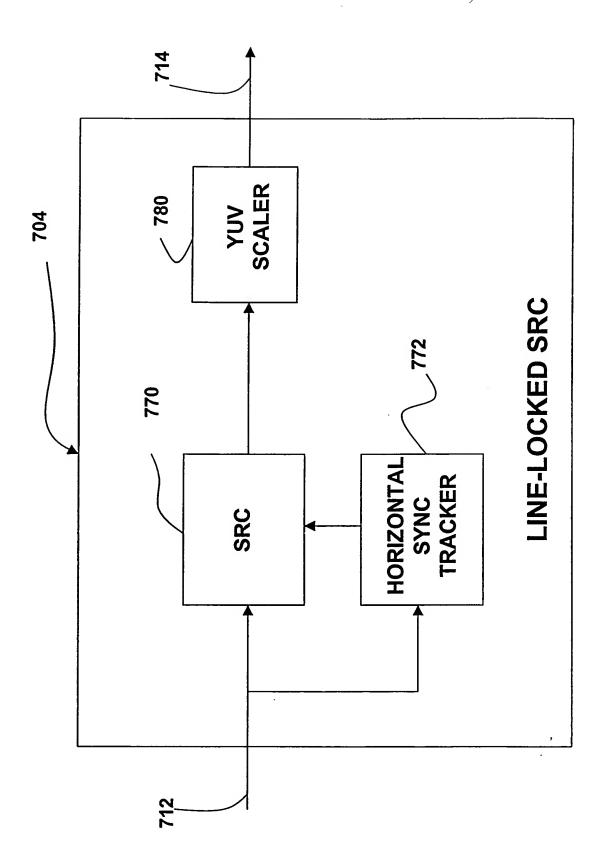
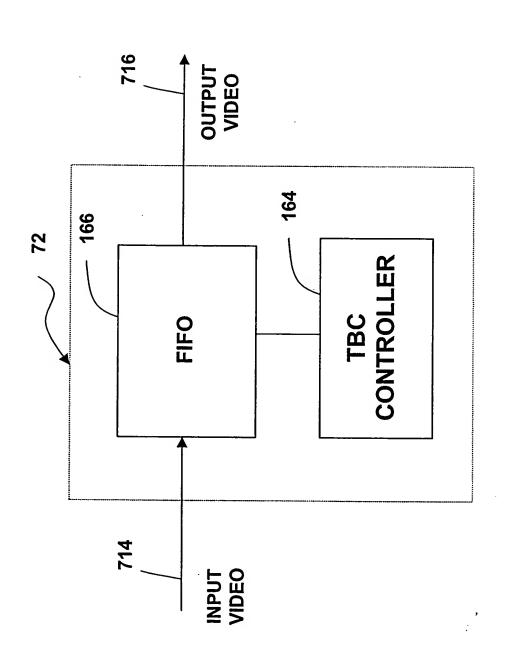


FIG. 21



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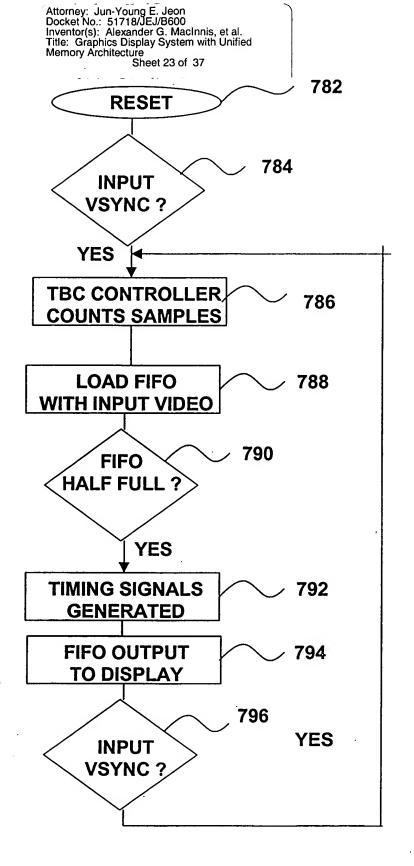


FIG. 23

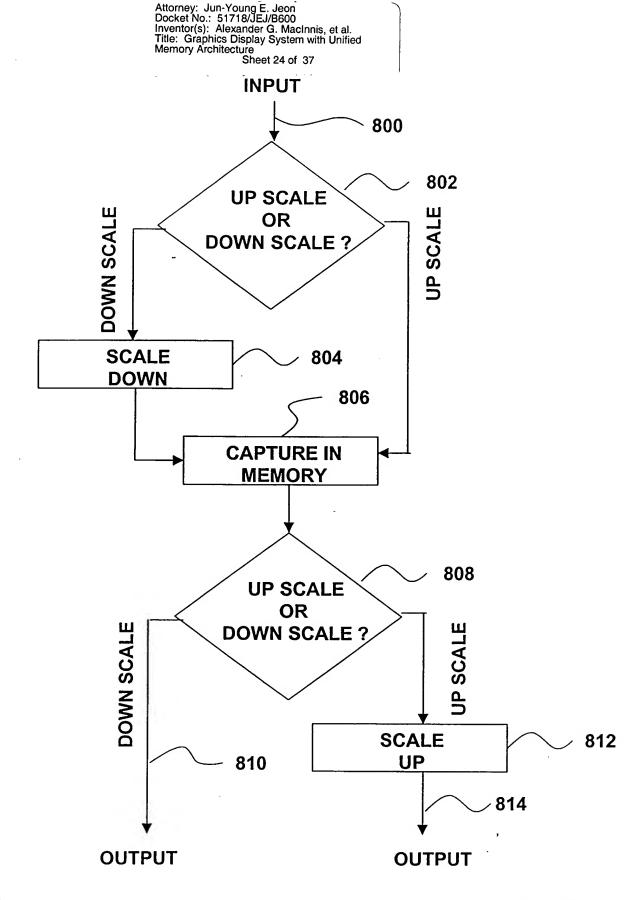
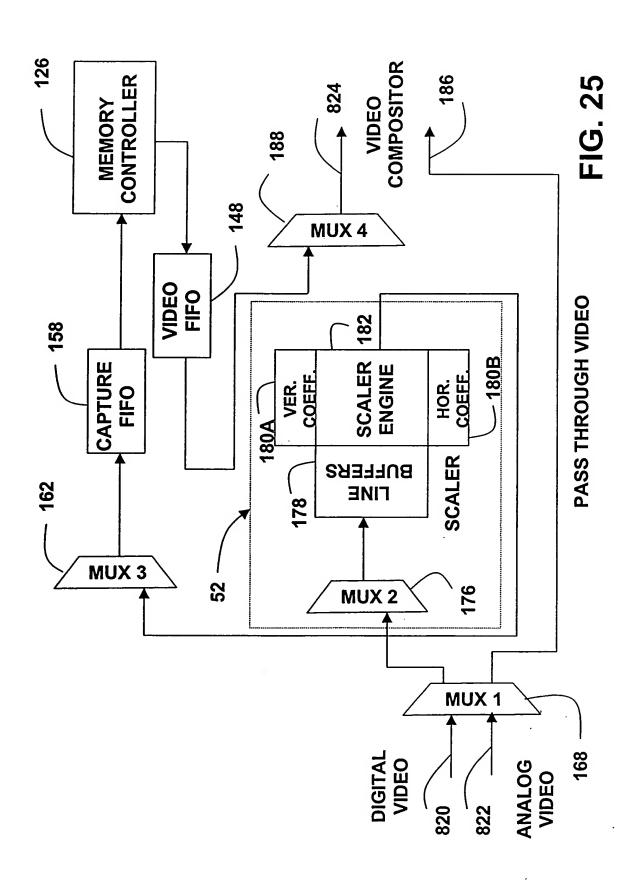
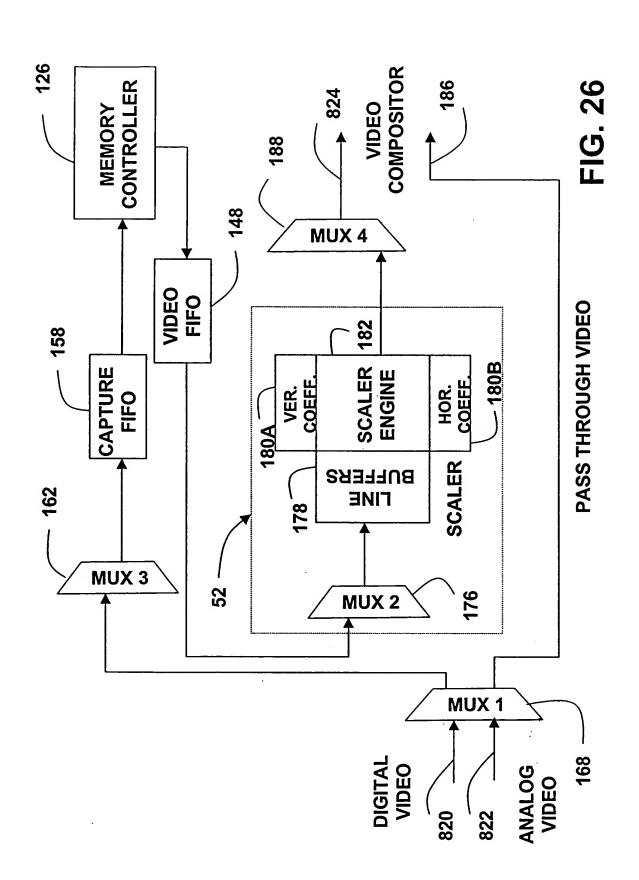


FIG. 24

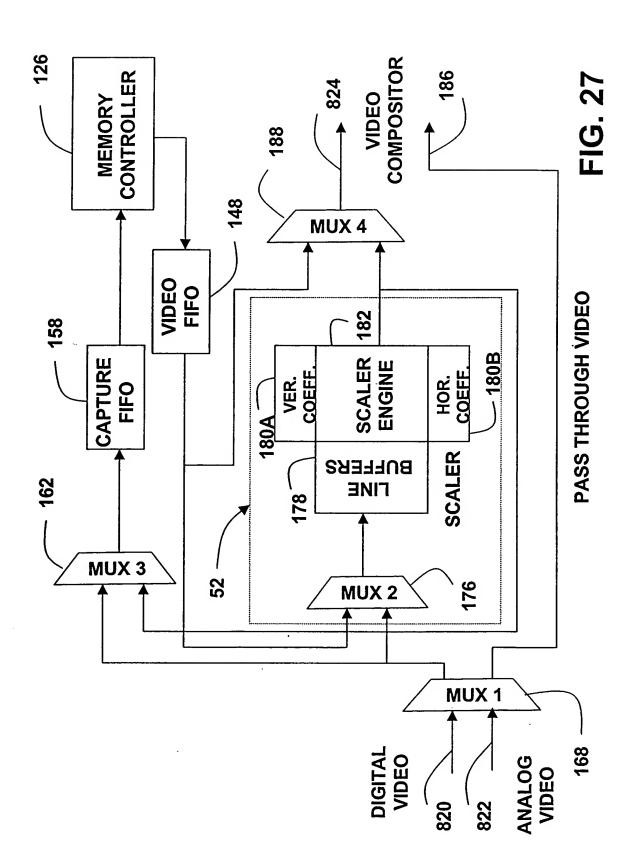
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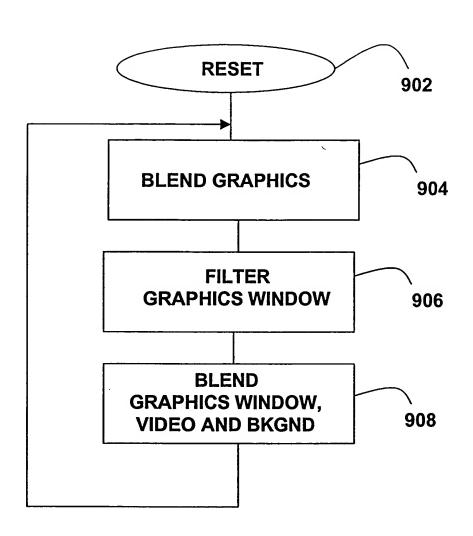
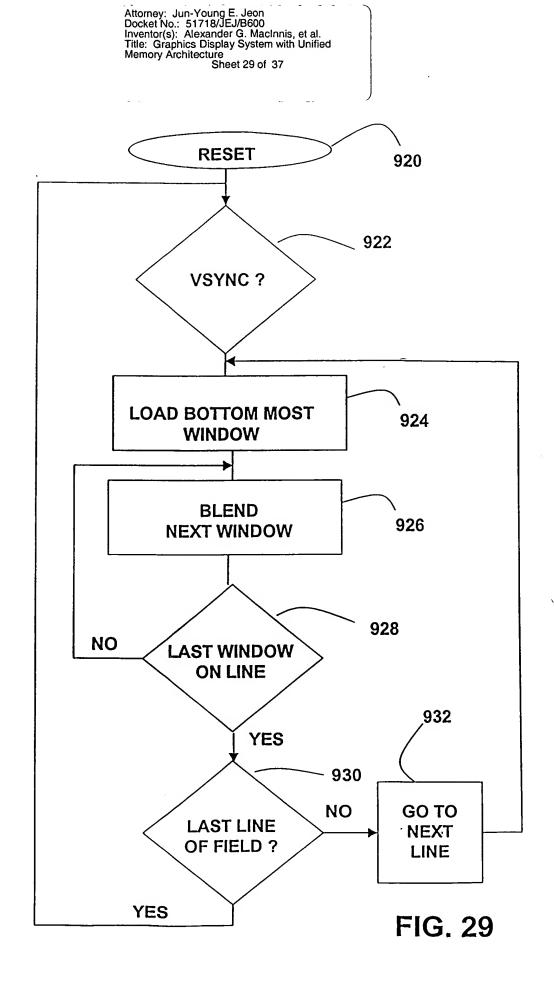
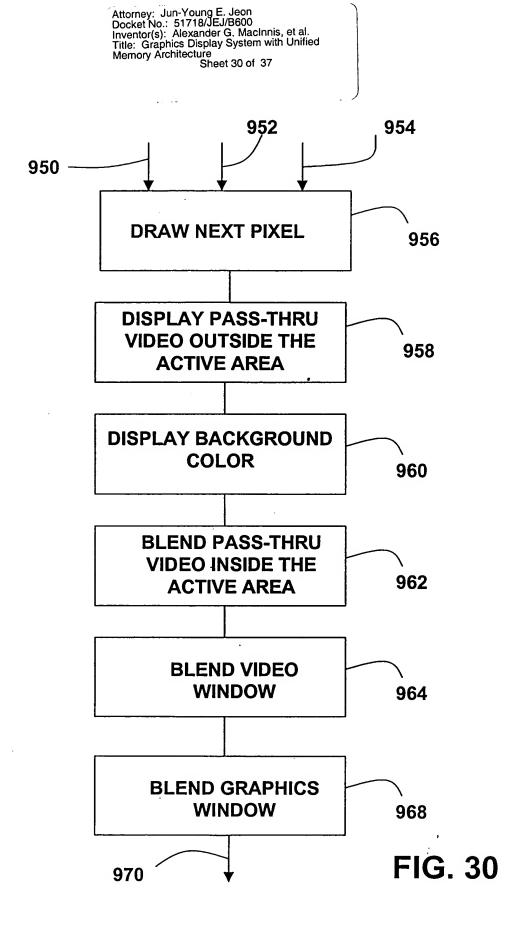
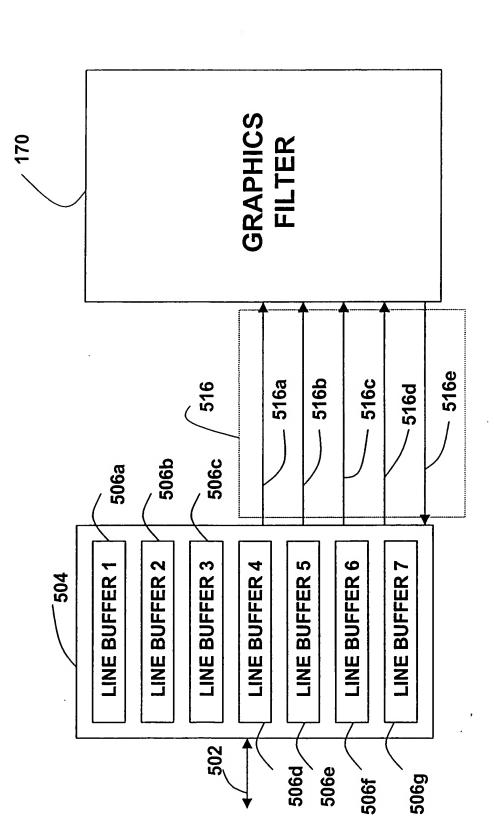


FIG. 28









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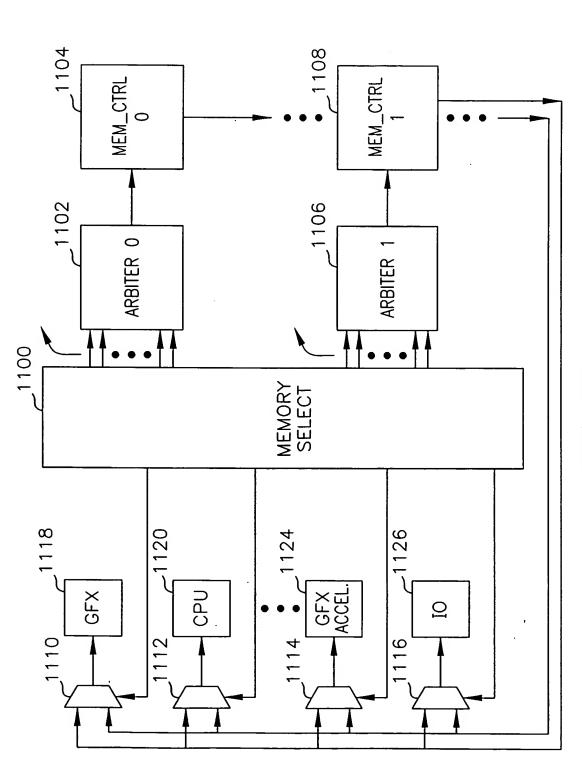
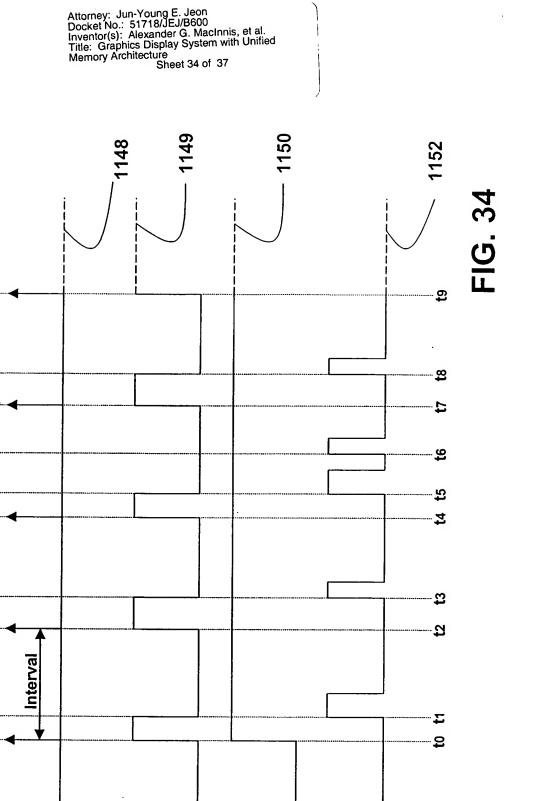


FIG.32

Attorney: Jun-Young E. Jeon Docket No.: 51718/JEJ/B600 Inventor(s): Alexander G. MacInnis, et al. Title: Graphics Display System with Unified Memory Architecture Sheet 33 of 37 **ARBITER** 1134a 1134b 1134c 1134d 1134e **LOW PRIORITY TASKS IN ROUND ROBIN TIMER BLOCK** TASK 3 TASK 1 **TASK 4 TASK 5** TASK 2 SPORADIC SERVER **CPU REQUEST** 1140a 1140b 1138 1140c



CPU HIGH PRIORITY CPU SERVICE

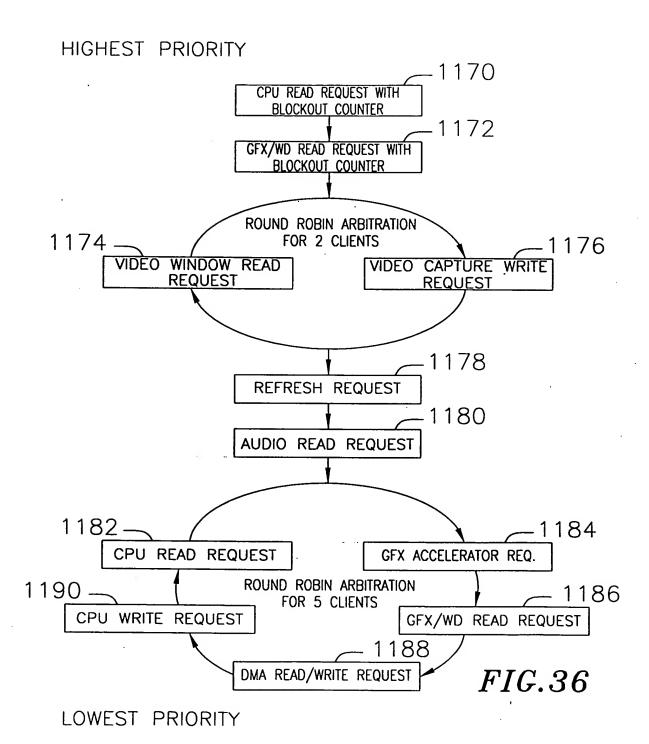
CPU LOW PRIORITY

CONTINUOUS CPU SERVICE REQUEST

TIMER

LOW PRIORITY TASK TASK 2 TASK 4 TASK 3 TASK 1 **t** 8 **t7** te 5 ಬ ₽ \$

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